

壹、科目名稱：微分方程 (上)

貳、授課老師：謝忠村

參、開課系所班級：數學系二年級

肆、必選修：必修

伍、學分數：2/2

陸、先修科目：

柒、教學內容及進度：

1. Introductions; First Order Differential Equations

Mathematical Models, First Order Linear Differential Equation, Separable First Order Linear Equations, Exact Differential Equations, Non Linear First Order Differential Equations, Uniqueness.

2. Second and Higher Order Linear Differential Equations

The General Solutions of Homogeneous Differential Equations (2^{nd} order and Higher order),
The General Solutions of Non Homogeneous Differential Equations (2^{nd} order)

3. First Order Linear Systems

Existences and Uniqueness, Homogeneous Differential Systems (constant coefficients),
Real Eigenvalues and Phase Plane
Complex Eigenvalues
Repeated Eigenvalues
Non Homogeneous Differential Systems

捌、授課方式：黑板講述配合投影片

玖、教學設備：黑板和多媒體設備

拾、教材課本：Kohler & Johnson, Elementary Differential Equations with Boundary Value Problems, Person Internal Editions, 2^{nd} Ed.

拾壹、參考書籍：

拾貳、成績考核方式：

	平時成績：	30 %
	期中考成績：	30 %
	期末考成績：	30 %
	讀書報告：	%
	其他 (實習課助教成績)：	10 %

拾參、備考：